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ASSESSMENT OF KNOWLEDGE ATTITUDE AND PRACTICE OF RESIDENTS ABOUT PRE HOSPITAL CARE IN ADDIS ABABA

BY

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Declaration

I, the undersigned, declare that this is my original work and that all sources of materials used for this thesis are duly acknowledged

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ABSTRACT

Background: In Ethiopia pre hospital care is not well developed. Apart from some governmental and non-governmental institutions, the pre hospital care is not well known by the community

Objective to assess the knowledge, attitude and practice of residents about pre hospital care In Addis Ababa

Methodology: household based cross sectional study was conducted using multi stage random sampling technique from March to April, 2014. The data was collected through structured self-administered questionnaire and interviewing technique among 422 participants. Data was entered, analyzed, and interpreted by using SPSS Software version20.

Result: The findings of this study shows that majority of the respondents 364 (86.3%) knew the presence of pre hospital care, most respondents 405(96%) believed that pre hospital care is important and 160 (37.9%) individuals had encountered in different levels of pre hospital care provision. 411(97.4%) respondents believed that pre hospital care should be strengthened by increasing number of ambulances (23.7%), by training health professionals (18.7%), by teaching the community about pre hospital care (26.1%) and a combination of the above methods (31.5%). Regarding the assessment of their practice the common care givers during mass casualty were bystanders 102(24.2%) and the least care givers were paramedics being 18(4.2%).The common emergent problems that occurred in Addis Ababa fall down accident 72(29.2%) and followed by road traffic accident 59(24.1%).

Conclusion: Knowledge, Attitude and Practice investigations provide helpful insight into the level of understanding and utilization of services within the community .The findings show that high proportions of respondents have good knowledge (76.5%) and, positive attitude (69.9%) of pre hospital care, however, less than half of them have practiced pre hospital care in mass casualty**.** Unfortunately 58.8% and 65.2% of the respondents did not know the phone number of Red Cross and fire & emergency dispatch center respectively.

Recommendation: The city administration should teach the community to improve awareness about the advantages of pre hospital care, ambulance transportation and early visit to a hospital so as to decrease morbidity and mortality of trauma patients. The Red Cross and fire and emergency dispatch center should advertise their phone number to the public and respond immediately to community call and formulate a decision with policy makers about safe and rapid transportation despite the barriers Concerned authorities should be concerned about increasing the number of paramedics and the available Paramedics should actively participate in mass casualty incidents. Based on this study no identified barriers about pre hospital care so that there should be another study by taking other variables.

Abbreviations

AA	Addis Ababa
AAU	Addis Ababa University
CPR	Cardiopulmonary Resuscitation
DOT	Department Of Transportation
ED	Emergency Department
EMT	Emergency Medicine Technician
EMS	Emergency Medicine Service
HH	House Holds
KAP	Knowledge, Attitude and Practice
PHEM	Pre Hospital Care
RTI	Road Traffic Accident
SPSS	Statistical Package for Social Science
US	United States
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

In a medical emergency, split seconds can make the difference between life and death. Ambulance Service Community Responders are essential to making sure help gets there in time. (1).

„Pre-hospital" refers to all environments outside an emergency department resuscitation room or a place specifically designed for resuscitation and/or critical care in a healthcare setting. It usually relates to an incident scene but it includes the ambulance environment. Pre-hospital interventions therefore also range from simple first aid to advanced emergency care and pre-hospital emergency anesthesia (2).

Worldwide, Emergency medicine as field of specialization is a new discipline in general and pre-hospital care in particular. And it is possible to generalize that the development of the field is at its infancy level.

The current EMS system in the United States started with the 1966 National Highway Safety Act, which authorized the U.S. Department of Transportation (DOT) to fund ambulances, communications, and training programs for pre hospital medical services. Coincidentally, in 1967, J. F. Partridges began using a mobile coronary care unit in Belfast, Northern Ireland, to extend coronary care into the pre hospital setting (3).

A study in Australia showed that, considerable lack of knowledge about ambulance cover in a rural town and suggests that public education about ambulance coverage would be beneficial (4).

.In the USA, each state has EMS laws and regulations mainly defined levels of ambulance service capability, training requirements, equipment requirements, and requirements for physician leadership and accountability(5) .In Iraq, it was reported that they considered the best among the Middle East countries, but it had undergone significant deterioration over the last 20 years With a combination of international sanctions, conflicts, invasions, and until recently, minimal institutional support, development of a civilian emergency care system was lacking (6).

The International Red Cross and Red Crescent Movement since its foundation has been associated with the provision of health-care services. Training volunteers, communities and beneficiaries in matters related to health care and first aid is one of the primary activities undertaken by National Societies around the world .The ways in which ambulance and pre-hospital services are employed in risk situations vary with the security environment, the number and condition of the wounded, access to health-care infrastructure (7).

In the year 2000, a meeting of international experts was convened in Geneva, Switzerland, by WHO to discuss how to strengthen pre hospital care around the world, especially in low-income and middle-income countries. The group decided to write a document that could assist policy-makers in implementing highly economical but effective pre hospital care systems. Community members in Africa and South America have been successfully trained to provide effective emergency care using locally available resources (8).

. People in cardiac arrest must receive electrical shocks to restart their hearts within four or five minutes to survive. To reach patients in this critical period, a number of cities have trained police officers and firefighters as "first responders" who can initiate resuscitation. .In response to a 911 call, the E.M.S. dispatchers can send out a city ambulance, one from a nearby hospital or, at times of crisis like the World Trade Center bombing, one from one of the 30 volunteer companies that cooperate with the E.M.S (9).

In Ethiopia, pre hospital care (EMS) is not widely developed as in other developed countries .But in Addis Ababa, there are governmental institutions which incorporate by giving part of pre hospital care. These are national Red Cross and fire and emergency dispatch center which give additional ambulance services. In addition to governmental institution, there are also private institutions which give ambulance services. The fire and emergency dispatch center has 7 ambulance stations within 10 sub cities and it has 15 ambulances which are functional within 24 hours. Thus the study aims to assess KAP on pre hospital care among residents of Addis Ababa.

1.2 Statement of the problem

Globally, most deaths are due to airway problem, respiratory failure or continuing hemorrhage which can be prevented to a great extent with appropriate pre-hospital emergency care. to Considering the urgency of immediate treatment the „golden hour" and „platinum minutes" concepts had been developed to minimize the gap between the time of injury and initial medical attention. .Statistics generated from sporting events have shown the incidence of medical problems ranging from 0.12 to 17 per 1000 spectators and cardiac arrests ranging from 0.3 to 4.0 per 1,000,000 spectators(10).

As has been observed in Ethiopia, especially in Addis Ababa, the main problem for poor pre hospital care, especially in trauma patient is when someone is injured on the street, the attendant picks the patient simply and transports him/her to hospital by taxi instead of reporting to call ambulances, without giving first aid and with poor positioning of the patient during transportation instead of reporting to call an ambulance. This increases the complications and mortality of the patient in hospital because of poor position that may affect the cervical-spine.

In Ethiopia including Addis Ababa, no previous research was conducted on KAP of pre hospital care. Hence assessing knowledge, attitude and practice of pre hospital care among the community has a paramount important to produce a base line data planning interventions as well as creating awareness about pre hospital care within the community.

CHAPTER TWO

LITERATURE REVIEW

2.1. Background of pre hospital care

Pre-hospital care, which means to give to acute and dangerous medical assistance before the patients are sent to hospital, is a vital part of the whole emergency medical service. Timeliness and effective pre-hospital care makes a difference to save patients and alleviate pains and improve the success rate of rescue. A layman is very likely to arrive the scene firstly, so his pre hospital care knowledge and skill may have a life threatening-and-death relation to the patients directly. In order to promote the success rate of pre-hospital rescue, all the people must be involved in learning skills (11).

During the past few decades, research has shown that many injuries can be prevented or their severity reduced through the implementation of simple measures (4).

It is widely recognized that healthcare systems, especially pre hospital care in many developing countries are very poor to do the limited capacity to prevent or avoidable morbidity and mortality due to an expected acute conditions (12). Globally, road traffic injuries (RTIs) are responsible for a significant proportion of overall injury morbidity and mortality; due to poor quality of pre hospital care, 90% of mortalities are seen in low and middle income countries (13) .In many instances the prompt provision of emergency care and rapid movement of injured victims from the scene of injury to a health-care facility can save lives, reduce the incidence of short-term disability and dramatically improve long-term outcomes. Unfortunately, the capacity to provide this basic level of medical care does not exist in many parts of the world. (14). Inadequate evacuation of casualties had been identified as the main cause of delay in offering medical attention, resulting in higher mortality since World War II. “Bring the doctor to the patient” approach was implemented in Germany in 1957, which very soon became the accepted norm in the European countries *(15).* . Similar approach was adopted in the US but, instead of doctors, trained paramedical staffs provided care in ambulances. In India, every 1.9 minutes one trauma related death takes place, affecting the most productive age group (20-40 years) and leading to 2-2.5 per cent GDP loss. Lack of medical attention had been attributed to 30 % of deaths at the site and 80 per cent of the remaining patients dying within an hour of injury (16).

2.2. Major Cause of Death in Pre Hospital Area

In the United States, injury is the leading cause of death for persons aged 1–44 years (*12*). In 2005, injuries accounted for approximately 174,000 deaths in the United States (*12*), with an additional 41 million injuries serious enough to require the injured person to visit a hospital emergency department (ED) (*14*).A study in jeharan reported that injuries also have a substantial economic cost (17).

The Institute of Medicine published a landmark article in 1999, *To Err is Human: Building a Safer Health System* that described how errors in medical care compromised patient safety in healthcare environments. Emergency departments are particularly high-risk because patients are often very sick, time is short and information is limited. EMS shares these challenges, and in many ways can be worse. Studies show that about 3% of hospital patients suffer adverse events. If EMS' rate is anywhere close to that, with 16 million annual transports, the effect is quite large.*(18).* Although research is still needed, we all know that much can be done to improve our patients' safety. Globally, road traffic injuries (RTIs) are responsible for a significant proportion of overall injury morbidity and mortality; 90% of mortalities are seen in low and middle income countries (24) Motorcycle users are vulnerable on the road and represent an important group to target for reducing road traffic injuries. Riding motorized two-wheeled vehicles carries a higher risk of being involved in a fatal traffic accident than from using any other common mode of transport. It has been estimated that, per100 million person travelling hours, 440 motorized two-wheeled vehicle rider fatalities occur, compared to 75 and 25 fatalities for bicyclists and car drivers, respectively. Sudden cardiac death is a major public health problem affecting 400,000 patients annually in the United States, with the majority of these occurring in the out-of-hospital setting. Mortality rates are high and reach almost 100% when pre hospital care has failed to restore spontaneous circulation (19).Statistics on fatal accidents indicate that in the US, 43% of fire fighters‟ deaths in 2009 were caused by sudden cardiac death, 34% by internal trauma, 6% by asphyxiation, 6% by stroke, 6% by „other‟ causes, 4% by burns, and 1% by gunshots (20)

While emergencies and disasters which demand a high involvement of emergency workers is likely to occur more frequently and heavily in the future. Just a few examples of the most recent major natural disasters include the Haiti earthquake in January 2010, the Deep water Horizon oil spill in the Gulf of Mexico in April 2010, the flood in Pakistan and the Russian forest fires in Moscow in the summer of 2010, and the earthquake and ensuing Tsunami in Japan in 2011 (21). Iran with one of the highest RTI death rates (annually with over 27,000 deaths and about 0.8 million injured) in the world [has a situation similar to that described above. Studies in Iran have shown that about 60% of the deaths occurred at the

crash scene or on the way to hospital and more than 30% at the hospital Furthermore, a survey in 2002 indicates that only 14% of the injured people are transported to hospitals by ambulance and only 10% are rescued by trained personnel In order to reduce crash consequences, EMS capabilities in terms of human and physical resources have improved substantially during recent years but the statistics for crash-related mortality and morbidity do not show a noticeable decrease(22).

Iraqis had a fair understanding of the pre-hospital system. About half of the respondents thought that ambulances provide benefit to sick or injured individuals (50.6%) and a similar number ..(49.4%) felt they were able to recognize paramedics in case of an emergency. A slightly greater proportion of people recognized the benefit of having trained emergency medical technicians (EMTs) in ambulances (60.8%) (23).

2.3. KAP of communities of Iraq about pre hospital care

The study in Iraq showed that, in a situation where an ambulance had arrived and a severely ill/injured family member needed immediate care, 77.0% of respondents would agree or strongly agree to allow paramedics to care for the person, and 3.9%would disagree or strongly disagree. Further, when asked about a situation in which a severely ill/injured family member needed immediate care and had arrived at the hospital, 73.5% of respondents stated they would trust the medical staff in the emergency department to provide good quality care Less than one-tenth of the respondents disagreed (5.4%) or strongly disagreed (3.2%) that medical staff in the hospital emergency departments provided good quality care. (24)

Among 93.5% respondents understood that for a serious injury, one should go to the hospital within three hours, only half (50.6%) felt that ambulances were beneficial and only 5% knew that there was a number to call in case of medical emergency. Regarding attitudes, only half (50.2%) of those interviewed felt an Ambulance would arrive within an hour, while higher proportions of People believed that paramedics (59.1%) and medical staff working in emergency departments were adequately trained (71.5%). In terms of practice, most Iraqis responded that they would seek care in a hospital (84.8–90.0%) by means other than an ambulance (98.0–99.2%). However, if an ambulance arrived, 77% would allow it to transport their friends/ family and 73.5% would trust the medical staff in the hospital to appropriately treat them.

Studies in Iraq with respect to the knowledge of communities showed limited awareness regarding access to pre hospital emergency medical services (EMS). Most of the respondents

were unaware of the universal number for emergency medical assistance: 55.1% answered that there was no number and 39.8% answered that they did not know. The proportion of respondents who knew that there was a number to call for emergency medical assistance did not vary significantly among age groups , but tended to be lower among elderly (465) (2.7%) and young people (520 years) (0%). Among the limited respondents who knew there was a number to call for emergency medical assistance (5.0%), 59.3% answered the correct number to call (1–2–2), equivalent to 3% of all respondents. Very few people, about 1% of the respondents, had ever called the number for an ambulance prior to the survey

With respect to Attitudes towards pre-hospital emergency medical care were positive overall. A high proportion of respondents agreed or strongly agreed (81.1%) that ambulances were an efficient way to be taken to a hospital, while very few disagreed or strongly disagreed (4.7%). A small number were neutral (6.9%) or did not know/refused (6.7%). More than a third of the respondents did not know or refused to answer how long they thought it would take an ambulance to arrive if they called for it (39.2%), while 7.4% said that ambulance would not come at all. Of those who responded that an ambulance would come,

+a small proportion thought it would take less than five minutes for an ambulance to arrive (9.9%; 5.3% of total),while most replied it would come between five to 30 minutes (68.6%). A small proportion thought that it would take between 31 to 60 minutes (15.5%), and 5.9% thought it would take more than one hour(25.)

CHAPTER THREE

OBJECTIVES

3.1. General Objective

The general objective of the study is to assess knowledge, attitude and practice of residents about pre hospital care in Addis Ababa City

3.2. Specific objective

- Assess the knowledge status of the residents about pre hospital care,
- Examine the attitudes of residents towards emergency medical service,
- Assess the practice of the residents about patient care given before reaching at hospitals,.
- Assess barriers in pre hospital care utilization.

CHAPTER FOUR

METHODOLOGY

4.1. Study Design

A cross sectional household based survey was conducted during the study period.

4.2. Study area and period

The study was conducted in Addis Ababa capital city Ethiopia with an attitude of 2300 m above sea level. The city is divided into 10 sub cities (Amharic: Kifle Ketema) and 99 woredas. In Addis Ababa there are 37 hospitals (two NGO, twelve governmental, and twenty three private hospital), 29 Health center, 116 private not for profit and 357 private for profit clinics. There are organizations which give pre-hospital service fire and emergency service, Red Cross and Tebta ambulance

Based on the 2007 Census conducted by the Central Statistical Agency of Ethiopia (CSA), Addis Ababa had a total population of 2,739,551, of whom 1,305,387 are males and 1,434,164 females; The study was conducted from March to April 2014 in the selected sub cities (Lideta,Arada and Bole) households of Addis Ababa

4.3. Source population

All households lived in Addis Ababa city during the time of data collection

4.4. Study population

All households lived in the selected three sub cities, Lideta, Arada and Bole

4.5. Study subjects

Heads of households aged 20 years and above were included

4.6. Inclusion and Exclusion criteria

4.6.1. Inclusion criteria

Heads of selected households, if the heads are not available,

Use available family members whose age 20 years and above.

4.6.2. Exclusion criteria

Heads of households critically ill or mentally disabled, or family member less than 20 years and health professionals

4.7. Sample size determination

From these selected sub cities (3-sub cities), the number of sample HHs in each sub city was calculated using random sampling method. The study units were selected for each sub cities by calculating population proportion up to the sample size was enough.

The sample size was calculated using single population proportion

$$n = \frac{(Z\alpha/2)^2 P (1 - P)}{D^2}$$

Where: n= the maximum sample size

Z= standard normal distribution curve value for 95% CI which is 1.96 (where α= 0.05)

P= population proportion= 0.5 (it is assumed that 50%

D= tolerable margin of sampling error= 0.05

Hence; n= (1.96)2 ×0.5(1 – 0.5)

(0.05) 2

n =384

Non response rate which was estimated to be 10% of the respondents were added in the Sample. Therefore Sample size (n) = 384 +0.1 × (384) for non-response rate ═ 422 households were interviewed.

4.8. Sampling procedure

The study used a multi-stage procedure, 3 sub-cities (30% of the 10 sub cities) were selected by lottery method from the 10 sub-cities in Addis Ababa. This selection was done based on WHO 2013 standards (26). Again, the selected sub-cities were divided into 10 -14 woredas each.

At the second stage, one woreda was selected from each of the 3 sub-cities by a lottery method. The woreda was also further sub-divided into 6 to 8 ketenas. Each ketena contains an average number of 500 households (27).

At the third stage two ketenas, from each selected woredas were selected by a lottery method.

Then, pre proportionally calculated households using total households in the three sub cities (i.e. Of 422 study populations 204 (48.3%) from Bole, 117(27.7%) from Arada and 101 (24%) were from Lideta.

Lastly, proportionally calculated households from each sub cities is divided equally (50%) for selected ketenas within the respected woreda as shown in the figure below.

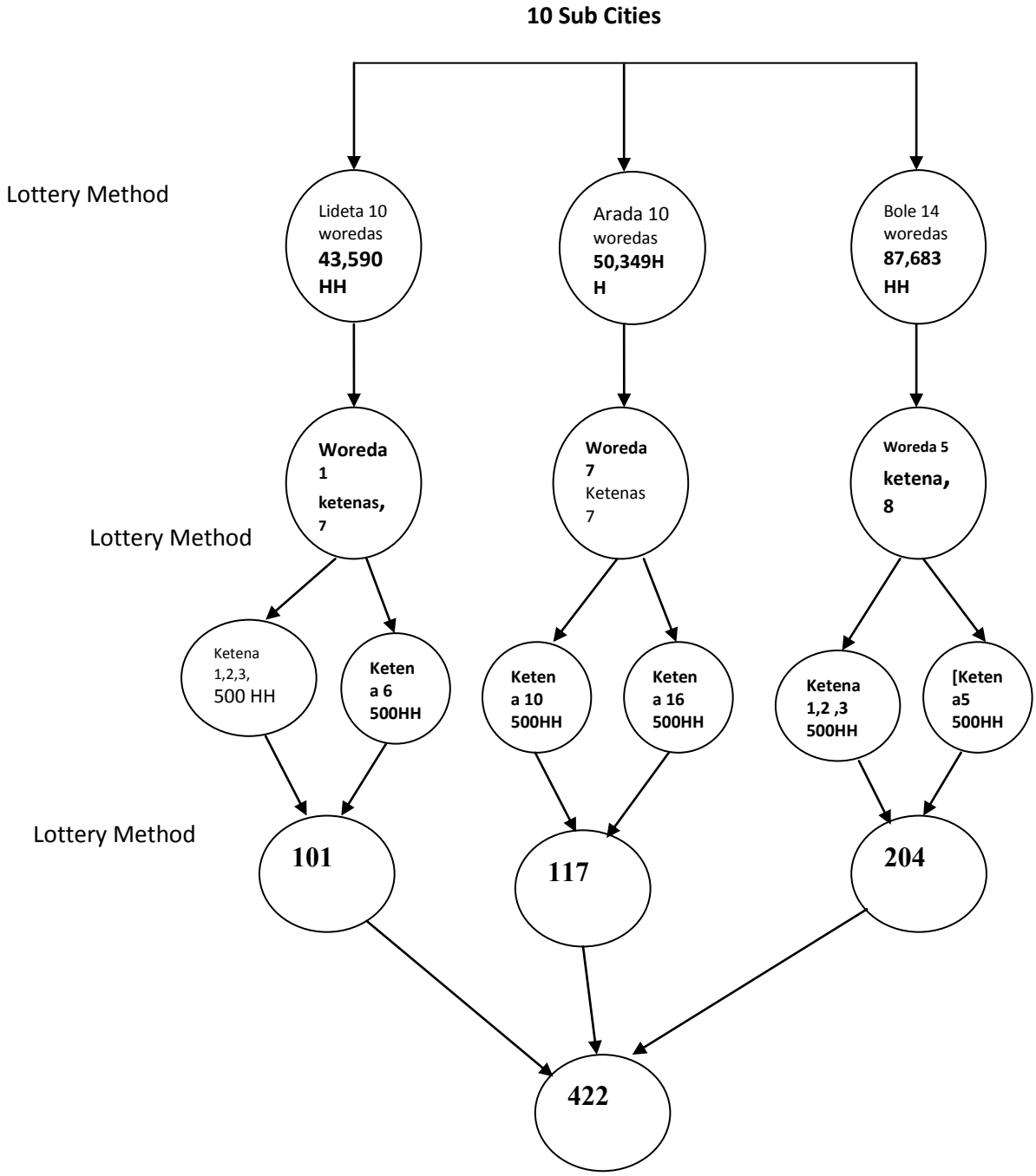

Figure 4- 1 : Schematic representation of the Sampling procedure

4.9. Variables

4.9.1. Independent Variables

The independent variables to be used in the study were**:**

- Age
- Sex
- Religion
- ethnicity
- Marital status
- Educational status
- Monthly income

4.9.2. Dependent variables

- Knowledge status of residents about pre hospital care
- Attitude status of residents about pre hospital care
- Practice of residents about pre hospital care
- Barriers of pre hospital care

4.10. Data collection methods

4.10.1. Data collection procedure and tools

For studying at the office level structured questionnaire was prepared with intense discussion and evaluation with advisors and referring previous questionnaires which was developed for the same purpose. So Structured interviewer questionnaire was developed to collect the information. The questionnaire was translated into the Amharic by linguistic professionals. Matching was made on the exact fitness of the two versions. A pretest using the questionnaire was conducted among five percent of the total sample size that was not included in the study. The pretest as well as the study was done by trained data collectors (nurses and Health extention worker) and any ambiguous and unsuitable questions were modified after the pretest will be conducted. After checking of questionnaire completeness with pretest, the actual data collection with a face- to-face interview and self-administer questionnaire were conducted by using structured questionnaire.

The criteria for selecting the data collectors and supervisors was included; those who had previous experience were given priority, those who were health professionals and knew the local language, those who are known to be honest, diligent and willing to face difficulties that may arise during the process of interviewing and those who know the study area and successful performance during the training were selected and hired for data collection.

The interviewers were given one day training before the actual work about the aim of study, study procedures, and data collection techniques go through the questionnaires question by question, art of interviewing, ways of collecting the data, clarification was given on each doubt and discussed about potential problems that can arise and how to solve them. At the time of data collection, explanation was provided for the respondents on the purpose of the study and the importance of their involvement then respondents who volunteered were interviewed face- to-face using structured and pretested questionnaires.

4.10.2. Data quality assurance

The quality of data was assured by properly designing and pre-testing of the questionnaire, proper training of the interviewers and supervisors of the data collection procedures, proper categorization and coding of the questionnaire. Every day, questionnaires were reviewed and checked for completeness by the supervisors and principal investigator and the necessary feedback was offered to data collectors in the next morning before data collection.

4.10.3. Data processing and Analysis

The quantitative data was entered by using computer processing, and SPSS. The data description method was by using proportion rates, percentages, ratios, frequency distributions, tables and graphic representation used.

4.11. Operational definitions

Pre-hospital care: which means to give medical assistance before the patients are reach to hospital, or a care given on scene and medical ambulance during transportation.

Emergency medicine technician basics: *EMT-Bs* are trained to assess signs and symptoms, Safely extricate, immobilize, and transport the patient, and administer certain non-invasive therapies such as oxygen.

Triage: Means, "To Sort"– A process for sorting injured people into groups based on their need for immediate medical treatment and transport.

Paramedics: are individuals who trained in the ability to give additional medications and to have a better understanding of the pathophysiology and pharmacology needed for interventions in various Medical conditions.

First responders: are trained in basic first aid measures such as bandaging, splinting, hemorrhage control, and cardiopulmonary resuscitation (CPR).

Emergency medicine technicians-paramedics: are trained in advanced airway management, including end tracheal intubation, cardiac rhythm interpretation and defibrillation, and parenteral medication administration.

Scene: the place where the accident or acute illness occurred.

Knowledge: is possession of facts and information‟s about pre hospital care in the communities.

Attitude: perceptions about pre hospital care or an expression of favor or disfavor towards pre hospital emergency service

Practice: the action and/or experience about pre hospital care or an activity performed towards getting pre hospital emergency medical service.

An ambulance is special type of vehicle primarily designed to transport sick or injured people to, from or between Hospitals and other registered places where the patient can get a better management.

4.12. Ethical considerations

Ethically approval of the research proposal was obtained from Addis Ababa University. Formal letter was written by the school of graduate study and permission was asked from other responsible bodies and after the consensus was reached the purpose of the study was explained to the study population, and detail information was given about the benefit of the study and the information given by study subject was confidential and no need to write their names. Acknowledgement was given for those who helped us during the study.

4.13. Dissemination of the result

The findings of this research will be presented to the IRB, AAU, for the facilitation of implementing the recommendation in to action. Furthermore these results will be communicated with red cross, Fire and Emergency dispatch center and Ministry of health so that the community will be aware of availability of the service, emergency call number and immediate transportation to a hospital by ambulances with the care of trained health professionals.

CHAPTER FIVE

RESULT

5.1 Socio demographic characteristics among respondents

Among the heads of households investigated at the selected sub city of Addis Ababa there were 229 (54.3%) males and 193(45.5%) females making male to female ratio of about 1.2 : 1 . The age range was 20 years (minimum) to 100 years (maximum) with a mean being 38.42 years with Sd $\pm$ 13.35 years. Majority of the respondents, 37.9%, were in the age group 35-49 Years followed by those who are in the age group between 20-34 constituting 31% with the least being the age group between 65 and above making a percentage of 12.1%.

Regarding their marital status the results showed that married cases predominate with a value of 225 (53.3%) , while 150 (35%) were single , 26 (6.2%) were divorced, and the remaining 12 (2.8%) were widowed and 9 (2.1%) were living separately.

Regarding to their ethnicity, majority of the respondents were Amhara in their ethnicity (50.5%) followed by Oromo (18.5%). The findings of the study about their monthly income showed that majority 154(36.5%) of the households earn below 600 ETB the remaining households 142(33.6%) earn respective monthly incomes of 600-1500 and126 (29.9%) households earn greater than 1500 ETB.

Concerning their occupation majority of them are NGO employees 142 (33.6%) working in different institutions**.** The next majorities is government workers making 25.7% and are 107 in number. 76 individuals lead their life in trade making 18%.Regarding their educational status, majority of the respondents 169(40%) were learned upto secondary school and least number of the subjects 22(5.2%) were illiterates. While the rest responded as below in **the table-1**

Table 1 : Socio-demographic characteristics of respondents in Addis Ababa, 2014

Variable		Frequency	Percent
Sex			
	Male	229	54.3
	Female	193	45.7
Age			
	20-34	131	31
	35-49	160	37.9
	50-64	80	19
	65 and above	51	12.1
Religion			
	Orthodox	334	79.1
	Muslim	33	7.9
	Catholic	8	1.9
	Protestant	45	10.7
	Others	2	0.5
Ethnicity			
	Oromo	78	18.5
	Amhara	213	50.5
	Tigre	46	10.9
	Gurage	43	10.2
	Others	42	10
Marital status			
	Married	225	53.3
	Single	150	35.5
	Divorced	26	6.2
	Widowed	12	2.8
	Living separately	9	2.1
Educational status			
	Illiterate	22	5.2
	Primary	71	16.8
	Secondary	169	40
	Diploma and above	160	37.9
Occupation	House wife	26	2.2
	Government employee	107	25.4
	Trading	76	18
	NGO	142	33.6
	Retired	26	6.2
	Others	45	10.7
Monthly income			
	<600	154	36.5
	600-1500	142	33.6
	>1500	126	29.9

5. 2 Knowledge of pre hospital care among respondents

Majority of the respondents, 364 (86.3%) were aware about the existence of pre-hospital care in Addis Ababa. The remaining 58(13.7%) individuals did not know the presence of pre hospital care. Regarding their source of information about pre hospital care 126 (34.6%) of them obtained information from Radio followed by 118 (32.4%) who got information from Television with the least percentage covered by internet 6(1.65%). Regarding the primary actors in the pre hospital care involvement of ambulances in Addis Ababa, the majority respondents 254 (60.2%) used Red Cross Ambulances while the other methods (Hospital and Health center) ambulances constituted only 37 (8.8 %0 of the actors in the pre-hospital care.

More than half of the respondents did not know the phone number of red cross and fire and emergency dispatch center with a proportion of 248 (58.8%) and 275 (65.2%) respectively While only 174(41.2%) respondents knew the phone number of Red Cross and only 147(34.8%.) respondents knew the phone number of fire and emergency dispatch center . Regarding the time of visit to emergency departments of a hospital, during occurrence of emergent problems, majority of them 182 (43.1%) prefer to go within the first 1 hour after occurrence of the problem while the other 124(29.4%) respondents don‟t know the time to go to hospital and the remaining respondents indicated that going to a hospital after emergency is appropriate when it is done with 1-3 hours, and >3 hours making a respective proportion of 15.2 and 12.3%. Similarly, majority of the respondents 396 (93.8%) replied about the benefit of having trained ambulance professionals in ambulances.

Moreover the findings of this study, concerning the respondent‟s history of accident, 245(58.1%) respondents had some form of emergent problem in their work place or house giving. The remaining 177(41.9%) individuals did not have critical emergent problem in their work place or house.

Among the critical problems that occur at their work place and house, this finding demonstrated that the majority cases are pre dominated by falling down accidents with a value of 72 (29.4%) followed by Road traffic accidents which contributed to59 (24.1%) of the cases as shown in the **table** below

Table 2 : knowledge of residents about pre hospital care in Addis Ababa, 2014

Variable	Frequency	Percent
Do you know the existence of pre hospital care in Addis Ababa		
YES	364	86.3
NO	58	13.7
If yes what is your source of information		
Radio	134	36.8
TV	116	31.9
Internet	6	1.65
Health professionals	70	19.2
Nehibours	38	10.4
Life saving activities in pre hospital care		
Yes	358	84.8
No	64	15.2
Primary actors of ambulance in Addis Ababa		
Red cross ambulance	254	60.2
Fire and emergency ambulance	49	11
Private ambulance	82	19.4
Others	37	8.8
Do you know red cross phone number?		
Yes	174	41.2
No	248	58.8
Do you know fire and emergency phone number		
Yes	147	34.8
No	275	65.2

Variable	Frequency	Percent
For serious injury/illness, how soon you go to hospital		
Within 1 hrs	182	43.1
1-3 hrs	64	15.1
More than 3hrs	52	12.3
Do not know	124	29.4
Benefits of ambulance for injury/sick individuals		
Yes	49	11.6
NO	373	88.4
Train ambulance professionals		
Yes	396	93.8
No	26	6.2
Critical emergent problem in your house/work place		
YES	245	58.1
NO	177	41.9
The common problems in your house or work place?		
Labor	79	18.8
Road traffic accident	102	24.1
Fighting	63	15
Falling down accident	126	29.7
Others	52	12.4

5.3 Attitude of pre hospital care among respondents

This study showed that among the interviewed 422 individuals the highest majority 405(96%) individuals believed that pre hospital care is important to improve survival after occurrence of emergencies while only 17(4%) respondents replied that pre hospital care is not important. Likewise, this study has shown that the great majority of the participants 411 (97.4%) have the need to see pre hospital care strengthened. This study also explores the mechanism how pre

hospital care should be strengthened and has founded that community education together with other combined techniques is vital as shown in the figure below

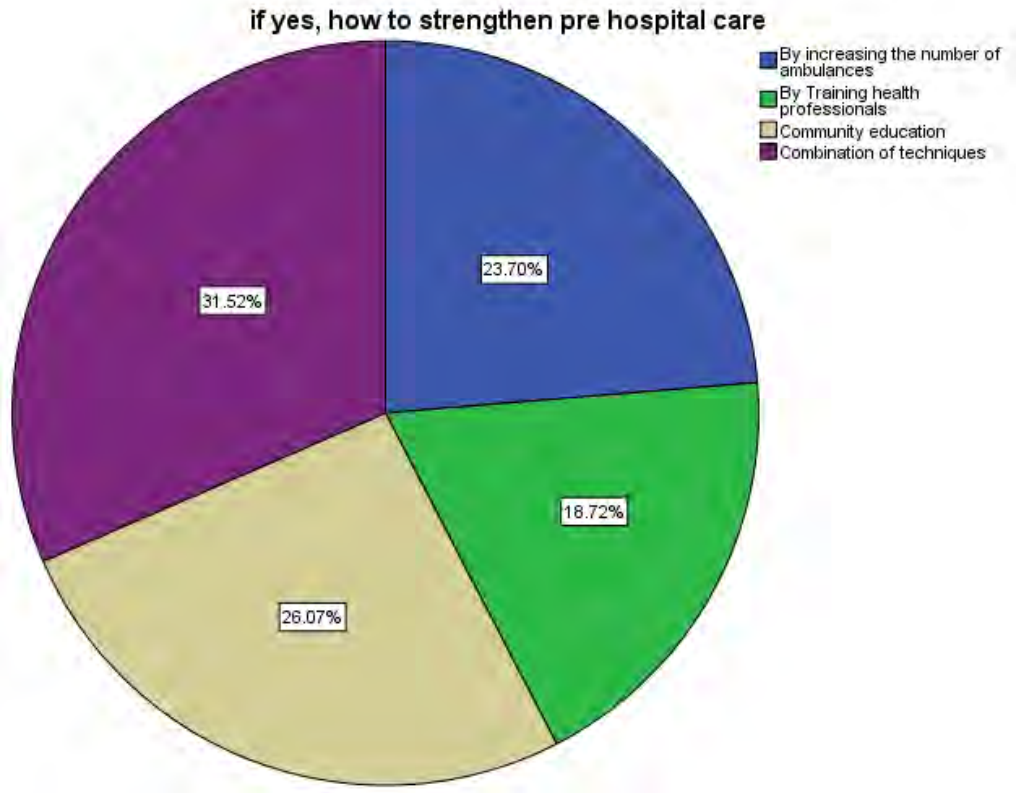

Figure 5- 1 : Pie chart showing the respondents suggested methods of strengthening pre hospital care, Addis Ababa city, March 2014

According to the findings of this study respondents have replied that the time taken by the ambulance to arrive is too late as the finding showed that ambulances arrive 1-2 hours 122(28.91%) after occurrence of an emergency and followed by 112 (26.5%) for 5-30 minute arrival time of ambulance.

More over the findings of this study showed that majority 200 (47.4%) of the respondents agree and strongly agree that ambulances are efficient ways of transportation to a hospital during times of emergencies which accounts of of the total respondents. While the remaining 166(39.4%) respondents disagree and strongly dis agree about ambulances efficiency in transporting patients or victims of an accident. The remaining 56(13.3%) individuals are neutral.

A questionnaire was also distributed to the respondents in order to assess their current feelings towards ambulances services, and the results showed that many of the respondents accounting for 188 (44.5%) have a fair attitude towards the current ambulance service. But only 42(3.3%) of the respondents have responded excellent feelings towards the current ambulance service.

Table 3 : attitude of residents about pre hospital care in Addis Ababa, 2014

Variable	Frequency	Percent
Do you believe that pre hospital care is important		
Yes	405	96
No	17	4.0
Do you think pre hospital care should be strengthen		
Yes	411	97.4
No	11	2.6
If yes by what means		
By increasing the number of ambulance	97	23.7
By training health the professionals	77	18.72
Community education	107	26.07
Combination of above all	130	31.52
Arrival time of ambulance		
<5 minute	20	4.7
5-30 minute	112	26.5
31-60 minute	110	26.2
1-2 hrs.	122	28.9
Never come	5	13.7
Ambulances are efficient ways of transportation		
Strongly agree	53	12.6
Agree	147	34.8
Neutral	56	13.3
Disagree	124	29.4
Strongly agree	42	10
Current feeling towards ambulance service		
Bad	26	6.2
Fair	188	44.5
Good	56	13.3
Very good	124	29.4
Excellent	42	9.95

5.4 Practice of pre hospital care among respondents

This study has tried to address the practice of residents in the selected sub cities of Addis Ababa regarding their practice towards pre hospital care utilization. Accordingly greater than half of the respondents 250(59.2%) have used pre hospital care. Among those respondents used 100 (40%) pre hospital care due road traffic accidents followed by fall down accident71 (28.4%)

According to the results of this study the main means of transportation during times of emergency, the respondents used taxi 173 (69.2%) while the least means of transportation used by the respondents is bus 4 (1.6%).

According to the findings of this research, majority 262(62.1%) of the respondents had not encountered in any mass casualty accident of any type. and 160 (37.9%) individuals had encountered and participated in different levels of pre hospital care provision. Among the respondents who encountered mass casualty incident transporting 108 (64.47%) casualties in to hospitals while the least first aid performed in others 3(1.29%).

This study has also tried to assess the common care givers during mass casualty accidents and has found that Bystanders 82(51.25%) are the principal pre hospital care providers. While the lowest known pre hospital care givers by the respondents were relatives constituting 14(8.8%).

According to the findings of this research, it is found that the commonly mentioned reason for not giving pre hospital care is lack of knowledge individuals 86 (32.8%)) of the total respondents. Likewise the second most commonly reason is lack of equipment 82(31.3%) of any type first aid during their life time experience.

According to the findings of this research it is found that majority of the residents in Addis Ababa have been using ambulances from red cross during occurrence of any emergency and accounts for 198(46.9%) followed by ambulances from private institutions 108 (25.6%) as shown in the diagram below.

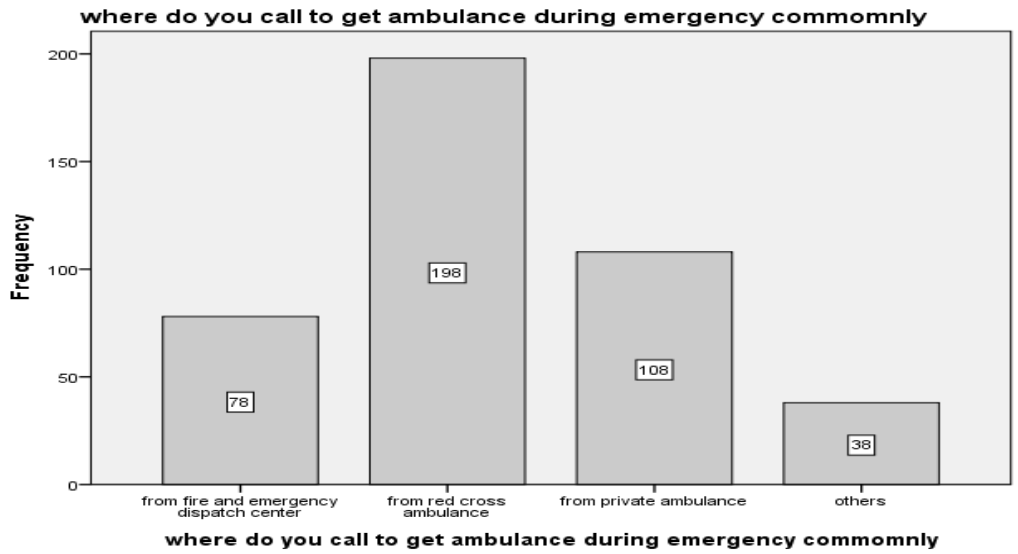

Figure 5- 2 Bar graph showing the preference of residents to call to an ambulance service during times of emergency in Addis Ababa, March 2014

Concerning the respondents‟ usual place to visit, if any family member gets ill/injured in house, majority of the respondents 196(46.1%) replied that they would use self-carry of the ill/injured person to transport him/her to a hospital followed by 118(28%) study subjects responded that they prefer to call for a private car or taxi.

At last, the study has also attempted to clarify the immediate actions taken by the residents when a person gets ill/ injured outside home. Accordingly the results have showed that majority of respondents 206 (48.82%) would transport the victim to hospital by private car/taxi followed by preference to call an ambulance which accounts for 144(34.1%) individuals and less number of respondents 43(10.19) replied that they left the patient without any support and the rest findings has shown below**(the table-4).**

Table 4 : practice of respondents about pre hospital care, Addis Ababa, 2014

Variable	Frequency	Percent
Have you ever used pre hospital care?		
Yes	190	45%
No	232	55%
If yes what type of injury/illness(n=190)		
RTA	75	39.5
Fall down accident	52	27.4
Fighting	37	19.5
Others	26	13.6
Means of transportation used(n=190)		
Ambulance	19	10
Taxi	88	46.3
Bus	6	3.2
Private car	65	34.2
Walking	12	6.3
Did you encounter pre hospital care in mass causality?(n=422)		
Yes	160	37.9
No	262	62.1
If yes what types of care is given(n=160)		
Stop bleeding	40	29.61
Transport to hospital	108	64.47
Give breath by mouth	9	3.95
Others	3	1.29
Who were commonly care providers?(n=160)		
Relatives	14	8.8
Bystanders	82	51.25
Police	17	10.6
Train first aid	32	20
Paramedics	15	9.4
If your answers is no, what is the reason?		
Lack of knowledge	86	32.8
Lack of equipment	84	32.1
Lack of practice	70	26.7
Others	22	8.32
To where you call commonly to get ambulance(n=422)		
Fire and emergency ambulance	78	18.5
Red cross ambulance	198	46.9
Private ambulance	108	25.6
Others	38	9
How would you seek medical care if your family member gets ill/injured at home?(n=422)		
Treat at home	12	2.8
Wait for a doctor to arrive	21	5.0
Carry to the hospital	196	46.1
Transport to the hospital by taxi or private care	118	28
Call for an ambulance	75	17.8
If you get someone injured /ill out side home, how would you seek medical care?(n=422)		
Leave without any support	43	10.19
Wait for a doctor	29	6.87
Take him/her to hospital by private car/taxi	206	48.82
Call for an ambulance	144	34.12

CHAPTER SIX

6.1 DISCUSSION

This is the first pre hospital based study conducted at different sub cities of Addis Ababa to assess the knowledge, attitude and practice of residents about pre hospital care. In this study, there were 422 households investigated targeting KAP of residents about pre hospital care. This figure was lower than the study done in Iraq which participate 1,172 individuals. The male to female ratio was 1.2:1 which is different from the findings at Iraq (0.9:1). This may be because of difference in sample size and high house wives involved in the study and the males may participate in military activities .The mean age of respondents was 38.42 years (SD: 13 years) but the study conducted in Iraq is slightly older than this study(mean 42 years),(SD:15years).

The bivariate and multivariate analysis of this study revealed that all of the socio-demographic characteristics, such as age of the respondent, marital status, occupation and educational status of the clients did not have any independent statistically significant association with KAP but monthly income had significant association with Attitude with COR=0.59,at p=0.018,{95% CI:0.356,0.975}. This means that households 126(29.9%) who had greater than 1500 ETB monthly income less likely have good attitude towards pre hospital care.

. With respect to knowledge, the result showed that majority of the respondents 323 (76.5%) had good awareness. Regarding existence of pre hospital care majority 364 (86.1%) of the study subjects responded positively and this result is better than the study conducted in Iraq (55.1%). The discrepancy might be due to the sample size difference and the presence of health extension workers in each ketenas those who were trained in different aspects of simple pre hospital care.

For the question whether respondents do know the phone number for emergency services and ambulance, of 422 respondents below the half of the respondents (41.2%) knew correctly to call for Emergency medical assistance (Red cross phone number 907 and (34.8%) knew correctly to call for fire and emergency dispatch phone number 939. This number is slightly lower than the study done in

Iraq (59.3%). This difference might be due to weak advertisement of EMS phone numbers in different media in Addis Ababa (25).

Below half of the majority the study subjects (43.1%) visited emergency department during times of emergent problems within one hour. This finding is significantly lower than the study done in Iraq (81%) (24). This discrepancy might be due to the crowdedness of the road, unavailability of transportation to go to hospitals and the care given at home. Majorities of the respondents (93.8%) responded about the benefits of trained ambulance professionals to handle the emergent problems occurred at the scene and at the home. This result is slightly better than previous study done in Iraq (60.8%).this difference may be due the contribution of extension health workers for each household. (24)

With respects of attitude, majority of the respondents (69.9%) have positive attitude towards pre hospital care and this result is less than in Iraq study (had over all positive attitude). Almost one third of the respondents (28.9%) replied that the time taken by the ambulance to arrive at patients is too late (1-2 hrs.), though the standard of ambulances to arrive is only eight minutes. This result is greatly different from previously conducted studies in Iraq in which the time to arrive for ambulances is about 5-30 minutes as 68.6% of respondents replied. This dalliance of ambulances might be due to insufficient number of ambulances, crowdedness the road traffic, a number of different incomplete road constructions etc. With regard to the efficiency of Ambulances services as a means of transportation 47.4% of the respondents replied as strongly agree or agree. However, the same study conducted in Iraq (81.1%) replied as strongly agree or agree (24)

In relation to a pre hospital care practices, most respondents stated that they have road traffic accident (40%) followed by falling down injury accident (28.4%). During mass causalities the commonly care providers are bystanders (51.25%) and followed by train first aid (20%).They would go to a hospital (64.5%) to seek medical care if a family member was seriously injured. Regarding to means of transportation, taxi (68%), private car (17.6%) is predominantly used but ambulances (9.2%) are less frequently used. This finding is nearly the same as a study conducted in Baghdad (2.8%) (25) . Limited uses of ambulances minimize the quality of pre hospital care by increasing morbidity and mortality especially for trauma patients. Most of the respondents

are aware of the pre hospital care. Therefore, they are using pre hospital services like calling for ambulance, transporting to hospital, stop bleeding and providing first aid for the injured person. However, the study revel that some of them are not aware of such pre hospital care and they lack practices. In addition, most people do not know the ambulance phone address number. Thus, due to lack of information most people are not using the ambulance during emergency. This shows that in addition to creating awareness sharing information about the ambulance address is very fundamental(15)

Calling for ambulance when a family member gets ill/injured at home (17.8%) is greatly differ from when the ill /injured person out side home or at scene (34.12%). This difference might be incase of on scene the first responder might be fear of legal issue about ill/injured individual so that he /she could call for ambulance instead of using taxi or private car. On the other hand,some respondents(10.19%) left the patient at the scene without any support by fearing accountability for legal issue.

6.2 Limitatioat of study

There is limited reliable data on actual ambulance utilization, time of transport, and percentage of patients taken to the emergency departments by ambulance (versus other means) to reflect the accuracy of the population"s perception.

Shortage of Literature (particularly in African cities) with similar methodological approach and on subjects with similar compositions to compare results and also some data collection tools were not standardized.

CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION

Generally, this study has tried to assess the knowledge, attitude and practice of residents about pre hospital care in Addis Ababa.

Concerning knowledge majority of the respondents knew about the existence of pre-hospital care and Most of the respondents used radio and TV as main source of information to know about emergency medical service in Addis Ababa but majority of respondents didn‟t know phone number of ambulances which is the main part of pre-hospital care.

Regarding attitude most of the respondents believed that pre-hospital care is important to save life early time and they wanted to see pre-hospital care to be at the best level by increasing number of ambulances, training health professionals, and teaching the community about pre-hospital care.Nearly half of the respondents replied as agree or strongly agree about using ambulance as efficient way of patient transportation. But 44.5% of the respondents had fair perceptions about recent ambulance services. This might be due to less availability of ambulances in the city and delliadance of ambulance to arrive on needed site.

. In case of practice, majority the respondents used taxi or private car for transporting the ill/injured patient to hospital instead of ambulance during any time of emergency that occurs in or out side home. Including mass casualty the common care providers during mass casualty are bystanders 82 (51.25%) and the least care providers are paramedics 15(9.4%).

Generally, the findings show that high proportions of respondents have good knowledge (76.5%) and, positive attitude (69.9%) about pre hospital care

7.2 RECOMMENDATIONS

Based on the above findings and conclusions concerning the KAP of residents about pre hospital care, the following recommendations are made for action:

- The city administration should teach the community to improve awareness about the advantages of pre hospital care, ambulance transportation and early visit to a hospital so as to decrease morbidity and mortality of trauma patients
- The red cross and fire and emergency dispatch center should advertise their phone number to the public and respond immediately to community call and formulate a decision with policy makers about safe and rapid transportation despite the barriers
- Concerned authorities should be concerned about increasing the number of paramedics and the available Paramedics should actively participate in mass casualty incidents
- Above all the university should conduct more investigations in this topic in a nationwide manner so that policies and protocols will be clearly formulated and pre hospital care will significantly be improved.
- Based on this study no idetified barriers about pre hospital care so that there should be another study by taking other variables

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9. Annexes

Annex 1 : Questionnaire English Version

ADDIS ABABA UNIVERSITY

School of Graduate Studies

Department of Emergency Medicine

- This Questionnaire is prepared for Assessment of KAP of Addis Ababa Residents towards pre-hospital care and to be filled by self-administered and face to face interview.
- You are kindly requested to respond to each question after understanding the questionnaires
- All information you respond will be kept secret and for that reason your name will not be recorded anywhere else on the questionnaire

  Again thank you for your cooperation.

Part one: questions on sociodemographic characteristics. Circle the answer choice and write the choice under the code column.

Ques. NO	Questions	Choice of answers	Code	Skip to Ques. NO
101	Sex	a) Male b) Female		
102	Age in years	----------		
103	Religion	a) Orthodox b) Muslim c) Catholic d) Protestant Others (specify) ----------		
104	Ethnicity	a) Oromo b) Amhara c) Tigre d) Gurage Others (specify) ---		

105	Educational status	a) Illiterate b) Primary c) Secondary d) Diploma and above		
106	Marital status	a) Married b) Single c) Divorce e) Widowed		
107	Occupation	a) House wife b) Government Employee c) Merchant d) other specify --------		
108	Monthly family income in ETB	a) <600 b) 600-1500 c) >1500 and above		

Part two: knowledge assessment questions. Circle the answer choice and write the choice under the code column.

Ques. NO	Questions	Choice of answers	Code	Skip to Ques. NO
201	Do you know about the existence of pre hospital care in Addis Ababa? (transport and medical care in ambulance before arriving health facility)	a) Yes b) No		
202	If your answer on Q no 201 is yes, what was your source of information?	a. Radio b. Television c. Internet d. Health professionals e. Neighbors f. Other (specify)__		
203	Do you know that basic life saving activities is performed in the pre hospital care system	a) Yes b) No		
204	Which ambulance is the primary actor in the pre-hospital care in AA?	a) Red cross b) Fire departments c) Ambulances d) Other ----------		

205	Do you know where pre-hospital care is given?	a) Yes b) No		
206	If yes for Q no 205, what are the sites in which pre hospital is given?	a) At Hospital b) At Red cross c) At any where d) Others (specify		
207	Do you know the red cross phone number? If yes write the number.----------	a) Yes b) No		
208	Do you know about fire and emergency dispatch center phone number in A.A? If yes write the number.----------	a) YES b) NO		
209	For serious injury, how soon should you go to a hospital?	a) Within 1 hour b) 1–3 hours c) More than 3 hours d) Don‟t know		
210	Do ambulances provide benefit to sick or injured individuals?	a) Yes b) No		
211	Is there benefit in having trained ambulance professionals in ambulances?	a) Yes b) No		
212	Have you ever faced critical emergent problem in your work place or in your house?	a) YES b) NO		
213	If yes Q number 212, what was that critical emergent problem?	a) Labor b) Road traffic accident c) Fighting with others d) Fall down accident Others (specify)----------		

Part three: attitude assessment questions. Circle the answer

Ques.NO	Questions	Choice of answers	Code	Skip to Ques. NO
301	Do you believe that pre-hospital care is important?	a) Yes b) No		
302	Do you think that pre hospital care should be strengthened?	a) Yes b) No		
303	If yes for Q number 302, how?	a) By increasing the of ambulances b) By training ambulance professionals c) By teaching the communities about pre hospital care? d) Others(specify)--------		
304	If you called for an ambulance, how long do you think it would take to arrive?	a) <5 minutes b) 5–30 minutes c) 31–60 minutes d) 1–2 hours e) Will not come		
305	An ambulances are an efficient way to be taken to a hospital	a) Strongly agree b) Agree c) Neutral d) Disagree e) Strongly disagree		
306	What is your current feeling towards ambulance service?	a) Bad b) Fair c) Good d) Very good e) Excellent		

Part four: practice assessment questions. Circle the answer choice and write the letter under the code column.

Ques .NO	Questions	Choice of answers	Code	Skip to Ques. NO
401	Have you ever used pre hospital care?	a. Yes b. No		
402	If yes for Q no 401, what Types of injury?	a) Road traffic accident b) Fall injury c) Fighting d) Other (specify)		
403	What was your Means of transportation?	a) Ambulance b) Taxi c) Bus d) Private car e) Walking f) Other (specify)		
404	Did you encounter pre hospital care in mass causality?	a) Yes b) No		
405	If yes, what kind of care is given?	a) Stop bleeding b) Transportation to hospital c) CPR d) Give breathing by mouth e) Others (specify)----------		
406	Who was the care provider?	a) Relatives b) Bystanders c) Police d) Trained first aider e) Paramedic f) Other (specify)		
407	If the answer for question is not what was the reason for not providing?	a) Lack of knowledge b) Lack of equipment c) Lack of practice d) Other(specify)-------		

408	When you face emergent problem in your house or at anywhere, to where you call commonly to get ambulance?	a) to fire and emergency dispatch center b) to red cross ambulance c) to private ambulance d) others		
409	If a family member were severely ill/injured while at home, how would you seek medical care?	a. Keep comfortable/treat at home b. Wait for a doctor to arrive c. Carry to the hospital d. Transport to the hospital via private car or taxi e. Call for an ambulance		
410	If someone gets ill/ injured outside home, how would you seek medical care?	a) Leave without any support b) Wait for a doctor to arrive c) Carry to the hospital /Transport to the hospital via private d) Call for an ambulance.		